

ATTACHMENT J.3.3

FEMP SAFETY REQUIREMENTS

J.3.3 FEMP Safety Requirements

This section provides a description of safety and health, and associated training requirements for all work performed at the FEMP.

J.3.3.1 General Site Requirements

The Contractor shall submit to FDF, for compliance review and approval its Safety and Health Program, which shall incorporate the information from this section and all programs as required by OSHA.

The Contractor shall abide by FDF's Safety and Health Guarantees stated below.

"FDF guarantees to all workers at the Fernald site that the primary mission is the safe, early, and least-cost cleanup and remediation of the Fernald site, while preserving the safety and health of each employee. To achieve our mission, FDF provides an avenue for all individuals to contribute to the safety excellence process. FDF requests that all Unions, employees, team leaders, supervisors, managers and Contractors reaffirm their commitment to work to prevent accidents and eliminate the conditions that lead to injuries and illnesses."

Safety and Health Guarantees

In the FDF Safety Handbook all employees at the FEMP are guaranteed the following rights:

1. The **RIGHT TO KNOW** the hazards associated with the performance of the employee's job, including timely notice of new hazards or developments, and access to the employee's medical and exposure records within the time frames mandated by applicable regulations or orders.
2. The **RIGHT TO REPORT** safety and health concerns or violations without fear of reprisal. DOE is the regulatory authority for this project. Therefore, employees may report concerns to DOE (DOE Order 5480.29, Employee Concern Management).
3. The **RIGHT TO REFUSE WORK** which the employee reasonably believes to be hazardous by notifying the supervisor/team leader of the work, including the right to use the formal grievance process to resolve such issues. As part of the Right, no employee will suffer any reprisal or the loss of regular hourly pay for refusing

such work.

4. The RIGHT TO ACCESS safety and health information including completed accident/incident investigations, consistent with applicable laws, including restrictions of the Privacy Act. The right to participate in investigations and the right to talk to inspectors from governmental agencies. This right to access applies to any employee or their designated Union representative.
5. The RIGHT TO INPUT regarding safety and health issues through the continuation of various applicable Joint Employee/Management Safety and Health Committees and initiatives.
6. The RIGHT TO PPE provided by FDF or the Contractor.
7. The RIGHT TO PARTICIPATE IN THE SAFETY EXCELLENCE PROCESS by providing input into the planning and approach to job tasks, development of protection methods and feedback on job training.

Each Contractor employee will be provided with a copy of the FDF Safety Handbook upon arrival on site. The Contractor management, supervision, and employees are required to read, understand, and abide by the handbook. Each employee shall be required to sign an acknowledgment sheet signifying that they understand the requirements.

J.3.3.1.1 Governing Documents

All work on this project shall be performed in accordance with OSHA (29 CFR Parts 1904, 1910, and 1926), state and local regulations, and the requirements provided in these contract documents. FDF will make the final interpretation of safety regulations during this project. Interpretations will be based on OSHA and DOE standard interpretations.

FDF and its Contractors are required to comply with DOE Order 5480.4, "Environmental Protection, Safety and Health Protection Standards," and DOE Order 440.1, "Worker Protection Management For DOE Federal And Contractor Employees," and FDF RM-0021.

Although OSHA has no jurisdiction at the FEMP (DOE is the regulating authority), FDF and its Contractors are contractually bound to certain OSHA standards. Therefore, many requirements identified in this document and the FDF Safety and Health Program are OSHA standards.

J.3.3.1.2 Health and Safety Requirements

The Contractor shall submit, for review and approval, a PSHSP and Project-Specific Health and Safety Requirements Matrix (PSHSRM) that covers the pre-operational, operational, and facility shutdown and dismantlement phases of the project. The Contractor shall

conduct an occupational hazard analysis for each phase of the project. The plan shall be updated, reviewed, and approved prior to each of the phases.

Occupational Hazard Analysis is a method of identifying potential hazards to the occupational worker associated with a given activity. The Occupational Hazard Analysis is part of the Integrated Hazard Analysis discussed in Section J.3.2. Additional analysis may be required to identify specific hazards for activities. Safe Work Plans and SOPs shall be developed incorporating the mitigators for the hazards identified in the analysis.

The Contractor shall develop a PSHASP that meets the requirements for 29 CFR Parts 1910.120 and 1926.65. FDF will assist the Contractor in writing the sections of the PSHASP dealing with Emergency Response (29 CFR Part 1910.120 (l) and (g)).

The plan shall be reviewed and updated on a six month basis or when significant changes occur.

Using the PSHASP and the PSHSRM as a guide, the Contractor shall develop Safe Work Plans in accordance with Attachment J.4.49, Contractor Safe Work Plan Format Requirements, for tasks associated with the pre-operational and facility shutdown phases of the project. The Safe Work Plans shall supplement the Health and Safety Plans.

In accordance with Section C.6.3 of the SOW, the Contractor shall incorporate safety requirements into procedures used during the Operations and Maintenance Phase of the project. The procedures shall supplement the Health and Safety Plan.

J.3.3.1.2.1 Project-Specific Health and Safety Requirements Matrix

The Project-Specific Health and Safety Requirements Matrix (Figure J.3.3-6) has been developed to aid the Contractor in identifying the hazards associated with the project. The matrix was prepared to address minimum requirements for foreseen and known hazards existing at the time of contract. Actual conditions must be addressed by the Contractor, based on the approved design. Additional mitigators may be required based on actual radiological, industrial hygiene, and safety conditions existing during actual work activities.

The Contractor shall further develop the PSHSRM in detail to determine the task-specific health and safety requirements. The PSHSRM shall include an occupational hazard analysis for each task and required mitigators including PPE, engineering and administrative controls, prejob planning and permits, personnel and air monitoring, medical monitoring and medical surveillance, and decontamination and disposal procedures.

J.3.3.1.3 Incident Rate Goals

The Contractor's project shall meet or better the site goals for Incident Rates. This rate is

calculated on a yearly basis using the formula from "Recordkeeping Guidelines for Occupational Injuries and Illness," U.S. Department of Labor, OMB No. 1220-0029.

FDF will review Project Incident Rates at least on a quarterly basis. If rates exceed established contract limits, the Contractor shall submit to FDF an action plan detailing how the Contractor will lower the rates. Success of the action plan will be determined by movement of rates over the next two quarters. If a downward trend is not seen, FDF reserves the right to dictate changes to the Contractor's safety program. All costs associated with FDF dictated changes will be borne by the Contractor.

J.3.3.1.4 Radiological Requirements

Radiological requirements are located in Section J.3.4, Silo 3 Material Radiological Safety Requirements (exceptions: Sections J.3.3.1.5 and J.3.3.2.1.5.2).

J.3.3.1.5 Inspection of Tools and Equipment

The Contractor shall notify the FDF Project Coordinator at least two working days prior to bringing tools and equipment, including fuel storage tanks (Section H.27) on site.

All equipment, including mobile powered personnel lifts, shall have the factory-approved operator/safety manual for use by the operator and personnel. This manual shall either be with the equipment at the time of use or be on file, available for reference when requested. All safety requirements within the manual shall be followed.

In accordance with Section H.60.1, the Contractor shall provide FDF with a list of all materials/items to be brought on-site, which have been used in conjunction with radioactivity in the past. The Contractor shall state what the items were used for, when they were used, and the radioactive isotopes with which they were used. This list should be submitted with the proposal. FDF reserves the right to reject the Contractor's request to bring such items on-site. (see Section C.7.2.3.7.1 and Section J.3.4 for release of materials from site).

The Contractor shall complete a FDF approval form [RP-0014 Radiation Source Accountability and Control, (Attachment J.4.42)] and provide ten working days prior notice of incoming radioactive materials. The Contractor shall provide documentation to FDF Radiological Control on the radioactive materials prior to bringing them on-site. Radiological sources may only be brought on-site with prior approval of the FDF Manager of Radiological Control and notification of the Radiological Control Source Custodian. (Information to be provided by the Contractor shall include the type and activity of the source, its intended purpose, how long the source is expected to remain on-site, and what controls will be placed on the sources to ensure their stability while on-site).

When OSHA requires equipment inspection by a competent person, the certification of

inspection shall accompany the equipment.

Equipment and tools shall be subject to inspection by FDF upon arrival at the site. Inspection shall include, but not be limited to, the following: OSHA compliance, damage that could render the item inoperable, oil, hydraulic or other fluid leaks. Tools and equipment may be radiologically checked if there is a possibility they were used on other radiologically-contaminated sites.

J.3.3.1.5.1 Power Tools

Power tools shall have guards and other apparatus in accordance with the manufacturer's data. The Contractor shall be prepared to supply this data in case of questions arising during the inspection.

Defective tools shall be tagged disabled in a manner that does not prevent repair or shall be removed from the jobsite immediately.

All power tool inspections shall be documented by the Contractor.

J.3.3.1.5.2 Powder-Activated Tools

The Contractor shall submit to FDF a written request to use powder-activated tools prior to use. FDF reserves the right to disapprove usage at the FEMP.

J.3.3.1.6 Monthly Manpower Report

The form titled "Contractor Manpower Report" (Figure J.3.3-1) shall be completed by the Contractor and submitted to FDF by the third day of each month. The report shall list the Contractor's name, total work hours, number of injuries, and a brief description of the injury. Required information shall be reported for the Contractor and all of its subcontractors who performed work for FDF during the previous calendar month.

J.3.3.1.7 Emergency Communications

FDF will provide emergency services for this project. This includes trained Emergency Response Technicians, ambulance services, and fire services.

A means to communicate any emergency condition must be available at all times during any work activity. This may be one of the following:

On-site work: Site telephone
 Cellular phone furnished by the Contractor
 Two-way radio on FEMP channel

The Contractor will be provided with one site two-way radio for the express purpose of emergency communication. The Contractor shall be responsible for furnishing any other radios needed for the performance of their work. Frequencies other than the FDF frequencies are not permitted on site.

To report emergencies on site by phone, dial 648-6511 or by radio, switch to Channel 7 and call CONTROL. The Contractor shall post the correct number at the work site.

J.3.3.1.8 Required Safety Meetings

Prior to starting work on the project, each project employee shall attend a prework safety meeting conducted by the Contractor to review the PSHSP.

The Contractor and subcontractors shall hold a 30-minute tool box safety meeting, on Monday of each week, to reinforce safety and to discuss the Contractor's developed safety topic related to the project. To supplement the Contractor's safety topics, FDF will provide safety bulletins and safety videos for use in these meetings. A record of attendance and topics covered shall be maintained by the Contractor and shall be made available to FDF upon request.

All personnel performing work activities will receive from Contractor Supervision a safety briefing prior to start of shift, after lunch, and at the start of any new work activity. The briefing shall last approximately ten minutes and address hazards, mitigators, reporting and controls listed in the Safe Work Plans and operating procedures. Also, normal construction and operation hazards, and related actions to perform work safely, shall be discussed during the briefing. The Contractor shall document the briefing and have personnel attending the briefing sign an attendance roster. These documents shall be maintained on-site and made available to FDF.

The Contractor's safety representative shall participate in a monthly meeting chaired by FDF, with safety representatives from all Contractors on-site.

The safety meetings shall be conducted in a manner that allows active participation by employees and is conducted in a manner that leaves personnel with a complete understanding of the material covered.

J.3.3.1.9 Required Medical Monitoring

In accordance with 29 CFR Part 1926.65, Hazardous Waste Operations and Emergency Response, all personnel assigned to a FEMP project and performing actual tasks are required to participate in the FDF medical monitoring program.

If an outside medical resource is used to provide any portion of the monitoring program, the Contractor shall receive prior written authorization from the FDF Medical Director who

shall have final authority for approval of external medical monitoring programs. FDF Medical Services will provide minimum requirements protocols for prospective Contractors. Medical documentation showing that personnel meet minimum requirements shall be submitted in a sealed envelope marked "SENSITIVE" to the FDF Medical Director, Mail Stop 30, with a copy of the transmittal to the FDF Construction Document Control. Submittals for conformance review, by FDF Medical Services shall be submitted at least eight working days prior to performing work. Medical approval must be received prior to performing work. FDF will provide a list of preapproved outside medical resources upon request.

Cost for Contractor personnel and for medical services performed by an outside medical resource shall be borne by the Contractor.

When medical monitoring services are provided by FDF, FDF will bear the cost of medical services and the Contractor shall bear the cost of Contractor personnel wages, etc.

Special medical (health hazard) monitoring requirements as prescribed by 29 CFR Part 1926, Safety and Health Standards for Construction and/or 29 CFR Part 1910.120 (Standards for Hazardous Waste Operations), other Federal, State or local statutes; and specific site Health and Safety Plans, may be fulfilled by sources outside of FDF (e.g., lead and associated tests). Documentation, including copies of medical examinations, laboratory or other testing including biologic monitoring shall be provided to the FDF Medical Director as described above. Biologic monitoring requirements shall be based on the Contractor's PSHSP.

The Contractor shall notify employees that no food or drink may be consumed after midnight prior to scheduled medical preassignment monitoring. Any employee-related costs caused by employees eating or drinking after midnight shall be at the Contractor's expense.

FDF Medical Services Department has the following Medical Monitoring Programs (including all of the laboratory, x-ray, and other testing ordinarily included in the Biologic Monitoring Program) in place for workers with potential exposures.

- Asbestos Worker
- Hazardous Waste Worker (including radiation)
- Lead Worker (and other heavy metals)
- Hearing Conservation

Some workers are required by regulation to be entered into a long-term Health Surveillance Process (Program). However, FDF cannot provide, nor be responsible for, these longer-term programs for Contractor employees. Other Standards of Care/Practice in IH, Occupational Medicine, or Health Physics may also dictate special testing or programs for some workers. The Contractor shall be responsible for these requirements. Additional

surveillance or monitoring requirements may be generated from the Contractor's method of performing work or materials used.

The Contractor shall complete an access form for each Contractor employee that will be used to identify the job classification (i.e., operating engineer, laborer, clerk) for the employee. FDF Medical will use this information to determine FDF-provided monitoring requirements. The durations for physicals listed in Figure J.3.3-4 includes any medical time necessary for this monitoring.

The FDF Medical Director will be the final authority pertaining to fitness of any worker or his/her suitability to perform work and to be exposed to any of the various hazards at the FEMP.

J.3.3.1.9.1 Prescription Medicine

Nonprescription medicine shall not be taken into Controlled Areas with the single exception of Glucose Tablets which may be taken by diabetics. Employees that need glucose tablets shall also register with the FDF Medical Department.

Prescription medicine will only be recognized by FDF after the worker, to whom the medicine is prescribed, registers the medicine with FDF's Medical Department.

Employees that must take prescription medicine on a schedule should first try to coordinate their schedule so that they may take their medicine on the administrative side of the plant. If this is not possible, prescription medicine should only be taken in a designated drinking water area or designated break room.

In the event of an emergency, an employee may take the medicine on the spot, regardless of the area in which he or she is standing. If medicine has been taken under these conditions, the employee shall contact FDF to determine what action, if any, shall be required of the worker in regards to dosimetry.

Contractor employees receiving medical treatment with radiopharmaceutical shall be restricted from entering Controlled Areas until such time as the radiopharmaceutical has cleared sufficiently from his/her system to the point where frisking through a Personal Contamination Monitor (PCM) at the control point does not trigger the alarms. The Contractor employees that are to receive such treatment shall report to FDF Medical Services beforehand so the appropriate precautions can be taken. Employees that have received treatment with radiopharmaceutical shall report to Medical immediately upon returning to work.

Contractor employees that are pregnant should report to FDF medical. The employee will be informed of risks related to her pregnancy as a result of working on the contract. The employee may "Declare Pregnancy" in accordance with 10 CFR Part 835. If declared,

FDF will ensure that the employee's thermoluminescent dosimeter (TLD) is read monthly (as opposed to quarterly). FDF's administration control limit is 50 mrem/month or 400 mr/gestation period.

Prior to leaving site, personnel working on contract work shall take an exit physical, unless they have had a FDF physical in the past six months

J.3.3.1.9.2 Bioassay

FDF will provide the Department of Energy Laboratory Accredited Program (DOELAP) dosimetry program. For additional information, refer to the Silo 3 Project Radiological Safety Requirements (Section J.3.4).

The form titled "Required Urinalysis Sampling" (Figure J.3.3-2) shall be completed with company, employee name, and badge number and submitted to FDF by 10:00 a.m. on the fifteenth (or closest working day) of each month for the preceding work period. This form shall be completed for the Contractor and its subcontractors. Required information shall be reported for all workers qualified under FDF Radiation Worker II (RW II) training that have worked at the project site during the reporting period.

All personnel qualified under FDF RW II training are required to leave a Bioassay (urine sample) after every 60 calendar day period and at the end of work on the contract. This information will allow FDF to generate Bioassay cards for all personnel reported. Bioassay cards will be provided to the Contractor for distribution to employees identified to be in the Bioassay program. Employees who will be leaving the job prior to the next sampling date are required to leave a sample after the last work day in contamination area (before final departure).

All workers receiving a Bioassay card shall be required to report to the Bioassay station in the Safety and Health Building (Bldg. 53) by the date shown on the card. Failure to report to the Bioassay station, within the required time period, may result in the employee's badge being withheld and site access denied until the requirement is fulfilled.

The Contractor shall confirm that Bioassay cards have been received for the required employees. Missing cards must be reported immediately to the FDF Technical Representative.

Baseline and incident fecal sampling will be controlled and maintained by the FDF Dosimetry Program. Fecal sampling requires the use of a kit, which the worker must pick up from the personnel at the in vivo chamber in the Health and Safety Building (Bldg 53). The worker is then required to take the kit home and return it with a sample the next morning to the personnel at the in vivo chamber.

J.3.3.1.10 Natural Occurrence (Weather)

Work will be suspended or delayed if adverse weather conditions (e.g., severe heat or cold) are determined by FDF.

Any operations using cranes, drill rigs, or personnel working on ladders, aerial lifts, or unprotected heights will be suspended if sustained wind velocity reaches 25 mph or gusts equal or exceed 35 mph. Cost of the work stoppage for adverse weather conditions shall be borne by the Contractor.

J.3.3.1.11 Lead, Chromium, or Cadmium Prohibitions

The use of solder or flux containing more than 0.2 percent lead or cadmium is prohibited.

Paints or other products containing lead or chromium are not permitted on-site.

J.3.3.1.12 Reporting Injuries and Accidents

All injuries and illnesses, no matter how minor, resulting from work performed at the FEMP shall be reported to the FDF Medical facility when they occur. The employee's supervisor/team leader shall accompany the employee.

The Contractor shall report all accidents and injuries to the FDF when they occur. The Contractor's Health and Safety Representative shall report all accidents and injuries to the FDF Health and Safety Officer when they occur.

In the event of a serious accident, injury, or event, the involved area shall not be disturbed until approved by FDF.

The Contractor shall provide reports and support investigations into accidents, illnesses, and injuries as required by FDF. This shall be in addition to the Contractor's own investigation.

The Contractor shall investigate accidents, injuries, illnesses and near misses to determine the root cause and methods to prevent future occurrences. A written report shall be provided to FDF within three working days after the incident.

Within 24 hours after an OSHA Recordable injury or illness, the Contractor Project Manager and Safety Representative shall meet with FDF's Project Manager and Manager of Safety and Health to fully explain what caused the event and what preventive measures shall be taken to prevent a reoccurrence.

When medical monitoring services are provided by FDF, FDF bears the cost of medical services and the Contractor bears the cost of Contractor personnel wages.

J.3.3.1.13 Back-up Alarms

All self-propelled equipment and vehicles shall be equipped with an automatic electronic audible reverse signal alarm.

J.3.3.1.14 Roll-over Protection Exemption

OSHA exemptions to roll-over protection are not permitted.

J.3.3.1.15 Eye Protection

All eye protection shall comply with ANSI Z87.1. Rigid side shields are required with safety glasses. Safety glasses are a minimum requirement for entrance to the controlled area of the site and for all construction areas.

J.3.3.1.16 Hard Hats

All hard hats shall be ANSI Z89.1 listed. Hard hats are to be worn at all times within defined construction areas and during the excavation phase. "Soft-cap" welding is not permitted. Welding shields are to be affixed to hard hats. FDF will supply hard hats for FAT&LC personnel. Additional hard hat requirements are located in Silo 3 Material Project Radiological Safety Requirements (Section J.3.4).

J.3.3.1.17 Work Uniform

In construction areas, all personnel shall wear as a minimum, long pants and a shirt with four inch long sleeves, steel-toed leather safety shoes, safety glasses, and a hard hat.

J.3.3.1.18 Signs

The Contractor shall supply and post appropriate signs stating "Construction Area - Hard Hats and Eye Protection Required" in proximity to the work and at all entry locations. Signs shall be placed approximately every 50 feet around the defined construction area.

For operational activities, the Contractor shall supply signs, at all entry locations to the project, stating the project name, entrance requirements, names of the contacts (Project Manager and Health and Safety Officer), and where the Health and Safety Plan is located.

J.3.3.1.19 Portable Fire Extinguishers

The Contractor shall provide Fire Marshall Approved or UL Listed portable fire extinguisher(s) for all work, storage and trailer locations. Ordinary hazard areas shall

require a 2A-20BC rated extinguisher within 50 feet of all work task area(s). NFPA 10 shall be followed for all fire extinguisher requirements. Inspections shall be in accordance with 29 CFR Part 1910 Subpart L 29 CFR Part 1926 Subpart F, and Attachment J.4.50, Contractor Fire Extinguisher Inspection Requirements.

J.3.3.1.20 Anti-Contamination Clothing (Anti-Cs)/Personnel Protective Clothing

FDF will supply the following PPE:

- Steel-toed leather safety shoes;
- Coveralls, underwear, and socks;
- Fire-retardant coveralls;
- Winter coats;
- Sweat pants and shirts;
- Dosimeter badge;
- Latex rubber shoe covers at the job site; and
- Launderable cloth anti-Cs (hood, anti-C coveralls, shoe covers).

J.3.3.1.21 Disposable Anti-Contamination Clothing

Disposable anti-Cs shall be supplied by the Contractor and shall meet the requirements of Attachment J.4.52, Contractor Disposable Anti-contamination Clothing Requirements. Disposable anti-Cs cannot be reused.

A full set of disposable anti-Cs shall consist of:

- Disposable coveralls;
- Disposable hoods;
- Disposable shoe covers;
- Latex rubber shoe covers (supplied by FDF);
- Duct tape;
- Cotton glove liners;
- Nitrile gloves; and
- Cotton gloves or other work gloves.

For the purpose of this contract, the terms anti-C's and PPE are used interchangeably.

In areas where Thorium is the isotope of concern, the Contractor shall wear disposable anti-C's over a launderable anti-C's.

Safe Work Plans or procedures shall dictate the various styles of protective dress workers shall wear to perform specific tasks.

Personal Protective Clothing selected for protection from chemical hazards shall provide at

least two hour breakthrough protection.

For further information on anti-Cs refer to Section J.3.4.

J.3.3.1.22 Heavy Equipment Operator

Before an operator uses equipment on-site, the Contractor shall furnish FDF with a signed copy of the Operator Verification Form for the type of equipment to be operated, at least five working days before starting work. Acceptable verifications can be from the equipment manufacturer, a certified trainer, the Operating Engineers Union, or the employer.

All material handling equipment and mobile powered personnel lifts shall have the factory approved operator/safety manual for use by the operator and personnel. This manual shall either be with the equipment at the time of use or be on file and available for reference when requested. The safety requirements within the manual shall be followed.

Prior to beginning work on-site, the operator shall become familiar with the specific equipment to be operated by reviewing the manufacturer's operating manual and by physically operating the equipment. The Contractor shall document this familiarization and retain a copy in the jobsite files.

J.3.3.1.23 Hoisting and Rigging

J.3.3.1.23.1 General

The Contractor shall comply with the following Hoisting and Rigging requirements, and the requirements of FDF Hoisting and Rigging Manual Section 15, which meet the requirements of the DOE Hoisting and Rigging Manual and will be made available upon request after award.

All rigging personnel engaged in or supervising rigging activities shall attend an eight hour Pre-Work Rigging Orientation that will cover safe rigging practices and site specific requirements.

FDF will work directly with the Contractor's rigging supervisor and rigger during the initial rigging activities to assure compliance with project requirements and safe rigging practices.

FDF will have direct oversight over Critical Lifts.

The Contractor shall prepare a Lifting Plan prior to making any lifts. Plans for lifts over 2,000 lbs. shall be submitted for compliance review to FDF.

Lifting Plan - A lift plan shall be required for, but not be limited to, lifts using Hoists and Overhead Cranes, and Mobile Cranes. The Contractor shall use FDF form FS-F-3943 for Hoists and Overhead Cranes and form FS-F-3944 for Mobile Cranes. The forms will be made available upon request.

Critical Lifting Plan - For determinations and requirements, refer to Chapter 15 of the FDF Hoisting and Rigging Manual. Some lifts that are considered critical include: multiple crane lifts, crane use at 80 percent or above the rated load chart capacity at any configuration, lifting over a building where occupied or where work is being done. FDF reserves the right to review and determine if any lift may be classified as critical.

J.3.3.1.23.2 Rigger Qualifications

FDF reserves the right to observe and/or interview riggers as the basis for approving or disapproving rigging qualifications. The Contractor shall submit a completed Level 1, 2, or 3 Rigger Verification Form at least two days prior to site access for FDF approval using forms FS-F-4706 (Level 1), FS-F-4707 (Level 2), and FS-F-4708 (Level 3). These forms will be made available to the Contractor at mobilization. The forms require that the Contractor verify qualifications and allow for verification by the union representative.

J.3.3.1.23.3 Level 1 Rigger

A Level 1 Rigger shall be approved to rig loads of ≤ 2000 lbs, which are not classified as critical, when using an approved FDF lifting plan.

A lifting plan shall be signed by either a Level 2 or Level 3 Rigger. All rigging conducted by a Level 1 Rigger shall be visually checked prior to lifting by a Level 2 or 3 Rigger. The Level 1 Rigger shall have a minimum of 16 hours of rigging training, meeting the following requirements:

- Basic rigging terminology;
- Proper use of various types of slings and rigging tackle;
- Storage requirements for rigging equipment and tackle;
- Daily inspection techniques for various types of rigging equipment; and
- Safe attachment of slings for straight lifts, basket, hitches, choker hitches, and multiple-leg bridge assemblies.

J.3.3.1.23.4 Level 2 Rigger

A Level 2 Rigger shall be approved to rig all loads except for critical lifts.

A Level 2 Rigger shall have a minimum of 40 hours of rigging training, meeting the following requirements of FDF:

- Level 1 Rigger requirements;
- Reading lift plans and rigging drawings;
- Determining change in safe working load capacity of slings as the configuration or angular stresses change;
- Determining the weight and center of gravity of an object to be hoisted; and
- Testing and inspection of rigging equipment in accordance with recognized industry standards.

A Level 2 Rigger shall have a minimum of 2,000 hours of verifiable experience from the Contractor and/or the Union Hall. Verifiable experience is defined as, working on a project which required as part of the persons work scope, hands-on rigging (i.e., former names and phone numbers, project type, and or union hall records).

J.3.3.1.23.5 Level 3 Rigger

A Level 3 Rigger shall be required for all lifts classified as critical. The level 3 Rigger designated by the Contractor to be responsible for a critical lift is the Person In Charge (PIC).

A Level 3 Rigger shall have a minimum of 120 hours of rigging training, meeting the following FDF requirements.

- Level 2 Rigger requirements;
- Jacking and rolling;
- Inclined-plane movement of loads;
- Rigging design;
- Snatch block and winch system;
- Lifting angles and compound loading;
- Load control requirements;
- Multiple-hitch systems; and
- Heavy rigging.

A Level 3 Rigger shall have three years of verified experience under the direct supervision of a qualified Level 3 Rigger. Verifiable experience is defined as working on a project which required hands on rigging as part of the person's work scope (i.e., former employer names and phone numbers, project type, and or Union hall records).

J.3.3.1.23.6 Inspection

Prior to site use, mobile cranes/boom trucks shall be inspected by a qualified FDF crane inspector. No work shall be permitted until equipment has been inspected by a qualified FDF crane inspector and documentation of required annual inspection and of maintenance records are presented to FDF by the Contractor.

Copies of annual inspection documentation shall be presented to FDF 24 hours prior to delivery of any mobile cranes/boom trucks.

The Contractor shall maintain a record of daily inspections of mobile/boom trucks. This record shall include documentation of the inspection in the equipment log.

Daily and monthly inspection records shall be maintained at the Contractor's field office and shall be readily available for review by FDF.

The Contractor may choose to use FDF form FS-F-3947, FDF Mobile Crane Operator Checklist to document inspections, which will be made available upon request.

FDF will periodically check the inspection reports kept on file by the Contractor as outlined in this section.

The monthly inspection of mobile cranes shall be documented by the operator or other designated personnel. The Contractor may choose to use FDF form FS-F-3948, FDF Wire Rope and Hook Condition, to document inspections, which will be made available upon request.

The Contractor shall record daily inspections of hoists. Any deficiencies noted during the daily inspections shall be noted on the check list. If a deficient condition noted during the hoist daily inspections constitutes a safety hazard, the hoist shall be taken out of service until a more detailed inspection can be completed. The Contractor may choose to use FDF form FS-F-2423, FDF Record of Daily Hoist Check, which will be made available upon request.

J.3.3.1.23.7 Lifting Personnel

If there is no practical alternative way to lift a person, other than by crane or forklift, the Contractor shall identify such in the work plan. FDF shall review and approve the Contractor's decision prior to the lift being executed.

J.3.3.1.23.8 Log Book

The Contractor shall keep a log book in the crane to record lifts that are made during daily activities. The log books are to be filled out by the crane operator.

Log entries shall include:

- Name of Operator;
- Name of Rigger;
- Date of lift;
- Hours on the crane meter at start of crane operation;

- Location of lift;
- Description of load;
- Rigging and configuration used; and
- If critical lift, list the PIC.

When a crane is equipped with a computer system, such as a Load Movement Indicator (LMI), the computer shall not be shut off or the override engaged. All warning lights and alarms must be operational.

J.3.3.1.23.9 Overhead Electrical Condition

Overhead conductors shall be considered energized. The Contractor shall notify FDF 24 hours before the commencement of operation near electrical conductors. FDF will arrange for the system to be deenergized and lockout/tagout of the lines shall be in accordance with OP-0004, FDF's Lockout/Tagout (Hazardous Energy and Material Control) Procedure (Attachment J.4.76).

J.3.3.1.23.10 Rigging, Hooks, Lift Plans

Only hooks, with latches to bridge the throat opening, shall be used.

All slings used at the FEMP shall have a certificate of proof test to 200 percent of vertical working load limit (WLL) and have a manufacturer's tag with the following minimum information:

- Manufacturer's name;
- Wire rope construction; and
- Vertical working load limit.

Below-the-hook lifting devices, fabricated for use on-site, shall be fabricated per engineering documents that have been reviewed and approved by a registered P.E.

The Contractor shall record frequent inspection of below-the-hook lifting devices. The Contractor may choose to use FDF form FS-F-2423, FDF Record of Daily Overhead Hoist Check, which will be made available upon request.

The Contractor shall perform periodic inspections of structural and mechanical below-the-hook lifting devices. FDF form FS-F-2478, FDF Lifting Devices, Grabs, and Tongs Checklist. This form will be made available upon request.

All below-the-hook lifting devices purchased or rented for use at FDF shall be supplied with a manufacturer's certificate of testing.

J.3.3.1.23.11 Rigging From Forklifts

If rigging equipment is required (e.g., wire rope slings, synthetic slings) to lift with the forks of the forklift, the following requirements must be followed:

- Lifting with only one fork shall not occur without an engineering analysis by a registered P.E. and approval by FDF;
- The capacity of the forklift shall be reduced in relation to the location of the load on the forks per the charts in the forklift;
- The slings shall be protected from any sharp bends over the forks;
- The slings shall be sized for the load that will be lifted;
- Clamps shall be used to ensure that the sling will not slide off the end of the forks; and
- Do not exceed the manufacturer's recommendations.

If a lift is classified as critical, a PIC shall be appointed and a Critical Lift Plan prepared and processed by the Contractor and approved by FDF.

J.3.3.1.24 Aerial Lifts, Manlifts, Scissors Lifts, Etc.

Full-body harness and lanyard shall be required while working from self-propelled extension boom lift. Tie-off is not required when working from scissors lifts type platforms where fall protection is provided by a top rail, mid-rail, and toe-board. These devices shall not be used to access and egress other elevated work stations without written approval from FDF.

The Contractor shall develop and retain, in the jobsite file, documentation confirming that all Contractor personnel operating aerial lifts, vehicular mounted elevating and rotating platforms, power platforms, etc., at the FEMP have been instructed on the safe operation of the equipment, and have demonstrated competency in the operation of the equipment. This documentation will identify the type of equipment, (brand, name, size, and/or model) to be used, personnel who have demonstrated competency, date, and signature of responsible Contractor.

The use of nonelectrical powered lifts is not permitted in enclosed areas (buildings) unless carbon monoxide (CO) monitoring is conducted.

J.3.3.1.25 Seat Belts

Seat belts are required for all vehicle (including gas or electric powered carts) occupants.

Occupants are required to use seat belts when vehicles are in operation.

J.3.3.1.26 Flammable/Combustible Liquids Use and Storage

The Contractor shall follow the requirements of NFPA 30 - The Flammable and Combustible Liquids Code (the most recent edition), OSHA 29 CFR Part 1910.106, when using or storing flammable or combustible liquids at the FEMP.

J.3.3.1.27 Ground Fault Circuit Interrupters

GFCIs shall be furnished by the Contractor on all 15 and 20 ampere, 120-volt circuits at all sites, unless specifically exempted by OSHA. The GFCI shall be placed at the source of the electrical service to protect both the cord and the devices connected. Assured grounding programs are not acceptable.

J.3.3.1.28 Flexible Cord Sets

Use of flexible cord sets with repairs to the cord is not permitted. Cord sets shall be routed overhead where possible to avoid damage. All flexible cords shall be UL-listed and rated for hard usage and damp locations. Only purchased cord assemblies will be permitted.

All cord and plug assemblies must have molded ends to verify proper polarity.

J.3.3.1.29 FDF Permits

The following FDF Permits are required:

Facility Outage Permit - This permit is required prior to closing any roadway, sidewalk, fire exit, electrical system, interruption of utility, telephone, fire protection system, or alarm system. The permit shall specify what will be impacted and what controls are required.

Radiation Work permit - This permit is required to inform workers of area radiological conditions and entry/exit requirements. Information on Radiological Work Permits (RWP) is contained in Section J.3.4.4.2.

Open Flame and Welding Permit - This permit is required for any flame cutting, open flames, welding, grinding, brazing, and other forms of hot work.

Penetration Permit - This permit is required to delineate any unknown hazards or conditions before the penetration starts. If the project work scope involves penetrating/excavating the surrounding earth, roof, floors, or walls of the facility, a FDF permit is required. The Contractor named on the permit form shall ensure that any hazard is clearly marked and communicated to the workers involved.

Confined Space Evaluation/Permit - This permit is required prior to any entry into a confined space.

Chemical Hazardous Material Work Permit - This permit is required for work with hazardous chemicals or materials as follows:

- Using materials containing carcinogens;
- Work with biological hazards;
- Using organic solvents;
- Using acids or caustics; and
- Work with mercury, lead, cadmium, arsenic, or other toxic metals.

Silo Dome Access Permit - This permit is required for access to the Silo 3 Dome.

Scaffold Inspection Checklist/Access Permit - This permit is required for access to a scaffold.

Roof Access Permit - This permit is required for access to the roof of a building or an elevated structure.

Permits are obtained through FDF. Ten working days notice is required to obtain a work permit and ten working days notice is required to obtain other permits. Work requiring a permit shall not be started before permits are obtained.

The Contractor shall cooperate in obtaining permits by providing work descriptions and other pertinent information as requested.

J.3.3.1.30 Trenching and Excavations

Soil must be assumed to be type "C" (as identified in OSHA 29 Part CFR 1926) unless classified by a competent person. Soil within the FEMP fenced area shall be assumed to be disturbed.

Requirements of the Confined Space Program shall apply to excavating four feet or more in depth.

The Contractor shall perform an Excavation Entry and Daily Inspection prior to entering an excavation. The Contractor shall document the inspection and maintain a file on-site for review by FDF. The Contractor may choose to use FDF form FS-F-4442 for excavation inspections and form FS-F-4378, Competent Person's Daily Field Inspection Report, which will be made available upon request. The Contractor shall submit inspection forms for FDF compliance review prior to use. At the end of the project, all inspection forms shall be submitted to FDF.

Competent person shall determine protection systems for excavations up to 20 feet deep to protect employees from cave-ins. Excavations 20 feet deep or more shall be designed by a P.E.

The Contractor shall install and maintain a minimum physical barrier at the perimeter of all utility excavations, trenches or other open excavations for as long as those areas are open.

Hand digging, as opposed to mechanical excavation, shall be conducted within three feet of underground functional utilities or when required by FDF. Hand digging shall be defined as either manual removal of the soil or hand probing the area prior to mechanical excavation. The maximum amount of soil allowed to be removed between probing excavation is three inches.

During mechanical excavation, hand digging shall be conducted during the last three inches of soil removal.

The Contractor shall mark utilities as directed by FDF.

J.3.3.1.31 Safety Showers/Eyewashes

When required by the PSHSRM, the Safe Work Plan, or product MSDS, a safety shower/eyewash shall be located within 100 feet of the hazard. All portable safety showers/eyewashes brought on-site must comply with ANSI Z 358. For small quantities of materials, the Contractor may request a variance from FDF. Approval of a variance shall be at the sole discretion of FDF.

J.3.3.1.32 Illumination

Walkways to and from areas where personnel are working shall be lighted to not less than five foot candles per ft². Any portable lighting shall be arranged so as not to create a personnel burn hazard.

J.3.3.1.33 Sanitation

All drinking water locations within a radiologically-controlled area shall be approved by FDF.

Portable toilets shall not be used in Contamination Areas. No action may be taken in Contamination Areas that will expose any area of the workers' bodies or clothing protected by anti-contamination clothing other than the act of doffing anti-Cs at the control point with the intention of leaving the Contamination Areas.

Hand washing facilities shall be made available for personnel at lunchroom and toilet

facilities.

J.3.3.1.34 Temporary Enclosures

Temporary enclosures constructed for any reason shall meet the following fire protection requirements:

- Temporary enclosures shall not be supported by automatic sprinkler piping or other fire protection equipment;
- The enclosure supporting structure shall be constructed of noncombustible or approved fire-retardant materials;
- The coverings for walls, floors, ceilings shall be on noncombustible or approved fire retardant materials;
- The enclosure and an area of ten feet around the enclosure shall be posted as "No Smoking" areas;
- Combustible materials shall not be stored in the area surrounding temporary enclosures;
- Combustible materials used within the operation of a temporary enclosure shall be removed immediately after use or transported to and stored in approved metal containers with self closing lids. All combustible waste shall be removed from the enclosure after each work shift;
- Exits shall be kept unobstructed at all times;
- Hot work shall not be permitted within an enclosure, without an approved Open Flame and Welding permit; and
- Portable fire extinguishers shall be provided and positioned for easy visibility and access.

J.3.3.1.35 Housekeeping

Daily documented inspections shall be made by the Contractor to ensure that housekeeping is maintained. Debris shall be removed as soon as possible or at the end of each shift.

The Contractor shall keep walking areas clear of hazards by: cleaning up spills, picking up waste material (rod ends, metal shavings), trash, and tools, running hoses and electrical

cords overhead, and keeping stairways, emergency equipment and exits clear.

The Contractor shall dispose of trash, waste, and scrap in correct containers.

The Contractor shall ensure that work tables are occupied only by work at hand and tools required for work being done.

The Contractor shall stack, store, or spot material so that it can be reached readily by workers and material-handling equipment.

J.3.3.1.36 Competent Person Inspection

Where OSHA or this contract requires inspections by a competent person, the inspections shall be documented by log or other means and maintained in a file in the Contractor's facilities at the site.

The Contractor shall submit and maintain a list of all known competent persons including their qualifications and certifications 15 days prior to need.

The Contractor shall provide names and qualifications including certification of training, of the following competent persons to be used on this contract:

- Fall Protection/Arrest Inspection and Training;
- Lock and Tag Inspection;
- Scaffold Inspection;
- Ladder Inspection;
- Excavation Inspection;
- Crane Inspection;
- Motorized Equipment Inspection;
- Equipment Inspection;
- Rigging and Hoisting Inspection; and
- Lead Work.

J.3.3.1.37 Buddy System

As required in 29 CFR Part 1910.120, the buddy system shall be required for all work on this project.

J.3.3.1.38 Temporary Heating

The Contractor shall provide all temporary heat and heating equipment required for performance of the contract. Fuel heating systems require 24-hour coverage by the Contractor.

J.3.3.1.39 Behavior Based Safety

The Contractor shall implement a Behavior Based Safety Process which incorporates the following elements:

FDF will provide a one hour management overview, at the FEMP, to the Contractor's site and home office management within one month after Notice to Proceed. The objective of this overview is to gain management understanding and commitment.

FDF and Contractor on-site management will jointly present a one and one half hour introduction to the Contractor's employees within 10 workdays after mobilization. Contractor management shall participate in the presentation preparation. This presentation will emphasize Contractor management support of the process, the Contractor employee's ownership of the process, describe the process and how it works, and describe the process benefits and promote acceptance. Contractor employees shall be chosen to be observers, coaches and members of the steering committee (Coaches are usually Foremen). The following are ratios for employee participation:

- Observers:
 - 1 Observer per 1 to 15 craft employees
 - 2 Observers per 16 to 25 craft employees
 - 3 Observers per 26 to 50 craft employees
 - 4 Observers per 51 to 100 craft employees
- Coaches:
 - 1 Coach per 26 to 50 craft employees
 - 2 Coaches per 51 to 100 craft employees
- Steering Committee:
 - 3 Members per 1 to 15 craft employees
 - 4 Members per 16 to 25 craft employees
 - 5 Members per 26 to 50 craft employees
 - 6 Members per 51 to 100 craft employees

FDF will provide training for observers, coaches and steering committee members and Lead the development of the critical behavior inventory. This training will teach the observers effective observation techniques and train the coaches and steering committee members in their responsibilities. The duration of this effort is:

- Observers - 6 Hours
- Coaches - 1 Hour
- Steering Committee Members - 3 Hours (Excused after Critical Behavior Inventory is established)

Observers shall make two, 20 minute observations per week and complete observation data Sheets. The observation sheets shall be provided to FDF.

FDF will use the observation sheets to analyze the data for trends and potential improvements. This information will be provided to the Contractor and the steering committee.

The steering committee shall meet monthly for up to two hours to discuss the barriers found during observations and to take proactive action to control the barriers.

The Contractor shall train new and replacement observers, coaches and steering committee members after the initial training by FDF. FDF will provide the training outline.

If the Contractor has an established Behavior Based Safety Program, the Contractor may submit the program for review by FDF for use on this Project. To be accepted by FDF, the program must be a process that:

- Uses an observation process.
- Tracts safe and at risk behaviors.
- Has documented, "No Name No Blame" approach.
- Is an employee based program that includes a critical behavior inventory, documented management "buy-in", training for all employees.

J.3.3.2 Requirements for the Contractor's Health and Safety Program

Within 15 calendar days after Notice To Proceed, the Contractor shall submit a H&S program (for all requirements under Section J.3.3.2) for FDF conformance review addressing the following requirements:

J.3.3.2.1 Safety and Health Organization

J.3.3.2.1.1 Contractor Site Safety and Health Representative and Radiation Safety Officer

J.3.3.2.1.1.1 Responsibilities

The Contractor must designate a full-time site H&S representative and a Radiation Safety Officer (RSO) dedicated to this contract with experience as defined below. The Safety representative and RSO will work closely with FDF management in hazard recognition/prevention and ensuring prompt correction of safety deficiencies including participating in joint safety inspections at least once per week.

The Contractor's site H&S representative shall be a responsible member of the Contractor's organization at the site, whose duty shall be the prevention of injuries and/or

accidents, conducting documented daily inspections of work and storage areas, reporting safety-related information, and maintaining applicable job site safety records. The Site H&S representative must have no other responsibilities and be independent of the Project management group (i.e., not report functionally to the Project Manager), (unless the Project Manager is also a principle in the company) or be responsible for cost and schedule.

The RSO is responsible for the Contractor's implementation of the FDF Radiation Protection Program. The RSO shall ensure that ALARA requirements are being incorporated into daily activities and ensuring that radiological exposures are maintained within the identified limits for personnel and meet the project ALARA goals.

The Contractor's H&S representative can be the Radiological Control Manager as long as they meet the criteria for both positions.

J.3.3.2.1.1.2 FDF Approval

The site H&S representative and RSO must be approved by FDF before he/she is assigned to the project. FDF reserves the right to approve/disapprove any site H&S representative which the Contractor may submit either before the project begins or during project execution. During execution of the contract, FDF reserves the right to assess the Site H&S representative's work performance based on the number of first aid cases, recordable injuries, lost time injuries, contamination incidents, safety violations, and understanding and commitment to safety, and require replacement when performance is unsatisfactory.

The site H&S representative must meet the following criteria:

- Five years verifiable applied safety and health experience, with three years of that time in the construction and/or waste remediation industry, as a full time safety professional;
- Must be able to demonstrate adequate safety knowledge of OSHA 29 CFR Part 1926 and 29 CFR Part 1910 standards;
- Must be able to explain how to effectively implement a safety program for this project;
- Must be able to explain how to manage injuries/illnesses, as well as accident prevention; and
- Must be able to keep documentation current and up to date as required by the terms and conditions of this contract as well as those requirements as identified by OSHA or other regulatory agencies.

Each work shift shall have a H&S Representative. The Contractor's H&S representative for the second and third shift operations will be required to have:

- Three years verifiable applied safety and health experience, with three years of that time in the construction and/or waste remediation industry, as a full time safety professional; and
- Must be able to demonstrate adequate safety knowledge of OSHA 29 CFR Part 1926 and 29 CFR Part 1910 standards.

The RSO must meet the following criteria:

- B.S. in Health Physics or a related field, with 10 years verifiable applied safety and health experience in the nuclear industry (Note: FDF considers two years of experience in an applied radiation safety program to be the equivalent of 1 year of academic experience);
- Demonstrated safety knowledge of 10 CFR Part 835, "Occupational Radiation Protection";
- Demonstrated knowledge of DOE Order 5400.5, Radiation Protection for the Public and Environment";

NOTE: This is the minimum criteria for the responsibilities of the Contractor's H&S representative and RSO to meet at the time of pre-approval (premobilization) by FDF. Any other requirements either contractually, or required by OSHA, and other regulatory agencies shall be complied with by the Contractor. Failure to meet this requirement at the time of premobilization may result in a default of this contract.

J.3.3.2.1.1.3 Requirements for Organization Section of Contractor's Program

The Contractor's Safety and Health program shall identify the H&S Representative and describe the H&S Representative's relationship to Contractor management, which shows independence.

J.3.3.2.1.2 Competent Persons

Provide names and qualifications including certification of training, where required, of the following competent persons to be used on this contract:

- Fall Protection/Arrest Inspection and Training;
- Lock and Tag Inspection;
- Scaffold Inspection;
- Ladder Inspection;

- Excavation Inspection;
- Crane Inspection;
- Motorized Equipment Inspection;
- Equipment Inspection; and
- Rigging and Hoisting Inspection, including slings, cables, and chokers.

As part of the H&S Program, the Contractor shall provide the plan required, as defined in Section I of this RFP, General Provision, Environment, Safety and Health (Section A.37).

As part of the H&S Program, the Contractor shall provide the plan required, as defined in Special Requirement H.54 (Accident Prevention).

J.3.3.2.1.3 Hazard Communication Program

The Contractor shall comply with the requirements of 29 CFR Part 1926, Subpart D (Occupational Health and Environmental Controls), 29 CFR Part 1926, Subpart Z (Toxic and Hazardous Substances), 29 CFR Part 1910.1200 Hazard Communication, and 29 CFR Part 1910, Subpart Z (Toxic and Hazardous Substances).

The Contractor shall submit to FDF for compliance review a list of all chemicals anticipated to be used on-site by their employees and all subcontractor employees. The list shall include the identity of the chemical, the manufacturer, the quantity to be brought on-site and the specific location (confined spaces, pads, etc.) where it will be used. A legible copy of the most current MSDS for each chemical to be used shall accompany this list. The list and associated MSDSs shall be submitted to FDF within ten calendar days of the Notice to Proceed. Chemicals in excess of project requirements shall not be brought on-site.

The Contractor shall update the list each time additional chemicals are identified. A legible copy of the most current MSDS for each chemical used shall accompany any revisions. Revisions shall be formally transmitted to FDF Construction Document Control with a fax copy to FDF for compliance review by Industrial Hygiene (IH) at least two work days prior to the chemical arriving at the FEMP site.

J.3.3.2.1.4 Carcinogen

Regulated occupational carcinogenic shall be brought on-site only after a technical/engineering evaluation has been performed and documented by the Contractor which justifies that no feasible substitute is available.

Hazardous chemical approval must be obtained from FDF prior to the purchase of any regulated occupational carcinogens.

J.3.3.2.1.4.1 Carcinogen (Definition)

Occupational carcinogens regulated by this program include:

- Those substances regulated as carcinogens by OSHA in 29 CFR Part 1926, Subpart D and 29 CFR Part 1926, Subpart Z;
- Those substances that have been evaluated by the International Agency for Research on Cancer and found to be a carcinogen or potential carcinogen (i.e., Groups 1, 2A or 2B);
- Those substances listed by the U.S. National Toxicology Program as known to be carcinogenic or reasonably anticipated to be carcinogenic; and
- Those substances categorized as a confirmed human carcinogen or suspected human carcinogen (i.e., A1 or A2) by the ACGIH.

The requirements of this program apply to all regulated occupational carcinogens when the carcinogen is present in its pure form or in concentrations of 0.1 percent or greater. The requirements of this program are not applicable to control of asbestos and radioactive materials.

J.3.3.2.1.4.2 Purchase Requirements

Regulated occupational carcinogens shall be brought on-site only after a technical/engineering evaluation has been performed and documented by the Contractor which justifies that no feasible substitute is available.

Hazardous chemical approval must be obtained from FDF prior to the purchase of any regulated occupational carcinogens.

J.3.3.2.1.4.3 Carcinogen Controls

The following controls shall be implemented when it is necessary to use a regulated carcinogenic material:

- Safe work plans, standard operating procedures or experimental protocols shall be written describing the use of the occupational carcinogens and the procedures used to control exposure. These documents shall be reviewed and approved by FDF IH prior to use of the carcinogen. Plan submitted shall be made at least 15 calendar days prior to use;
- Engineering controls shall be the primary method used to minimize exposure to carcinogens and to prevent the release of carcinogens into the work environment; and

- Administrative and/or PPE controls shall be implemented to supplement engineering controls in order to minimize exposure to carcinogens. Warning signs indicating the presence of carcinogens shall be posted at the entrance to all regulated areas. Regulated areas shall be established where carcinogens are used. Steps shall be taken to control access to a regulated area, and a record maintained of all personnel working in the regulated area.

J.3.3.2.1.5 Respirator Program

The following criteria are required by the FDF respirator program and shall be incorporated into the Contractor's respirator program as appropriate:

- All DOE Orders, OSHA regulations and ANSI Z88.2-1992 requirements with regard to respiratory protection;
- The FDF Respiratory Program Administrator (or designee) shall approve any exemptions from the FDF Respiratory Protection Program;
- Required Medical Monitoring (Section J.3.3.1.9);
- Personnel shall be certified and fit-tested with the same equipment they will be using at the FEMP. Quantitative fit-testing will be provided by FDF. If the Contractor chooses not to use FDF fit testing, quantitative fit testing shall be performed with fit test records provided to FDF. The fit test records shall include the observed fit factors. Fit factors shall be greater than ten times the protection factor for negative pressure respirators;
- All respiratory protection equipment used on the FEMP site shall be NIOSH approved. The Contractor shall ensure that all respirator equipment is properly maintained. FDF shall supply the following respirators:
 - 1) North Model 7700 Silicone Half-mask Air Purifying (Small, Medium, Large);
 - 2) Mine Safety Appliances (MSA) one Half Mask Air Purifying (Small, Medium, or Large);
 - 3) MSA Silicone Ultra Twin Full-Face (Small, Medium, or Large); and
 - 4) MSA Silicone Ultra Vue Full-Face (Small, Medium, or Large).

All other respiratory protection shall be supplied by the Contractor (e.g., bubble hoods);

- All cartridges shall be supplied by the Contractor;
- Where Powered Air Purifying Respirators (PAPRs) are required by this Contract

or by law, the Contractor shall supply adapters for the air purifying respirators listed above and all other required appurtenances. The Contractor shall also supply any necessary support equipment to maintain the PAPRs, including: battery chargers, charging racks, belts, and cleaner/sanitizer;

- The Contractor shall provide the appropriate type of PAPR based on anticipated hazards. The appropriate PAPR shall be determined by FDF Radiological Engineering and FDF Industrial Hygiene;
- Chemical hazard work respirators and those used for asbestos work (face piece and cartridges) shall be recycled each time they are removed when leaving the work area. Respirators being used for asbestos work shall be bagged and an asbestos warning label affixed before they are placed in the recycling receptacle. Approval by the FDF Respiratory Program Administrator shall be required for reuse of cartridges other than particulate cartridges;
- At the end of the shift or job, whichever is sooner, respirators shall be separated from their cartridges and the cartridges discarded. Respirators shall be placed into a FDF-furnished green and white recycling receptacle. The same respirator shall not be used for more than one shift;
- A respirator or cartridge may be reused by an individual during a work shift if it is not used for asbestos or chemical work and is kept clean and radiologically-uncontaminated. At the end of the workday, respirators must be turned into FDF;
- Cleaning and repair of respirators, except PAPR adapters and appurtenances, will be the responsibility of FDF;
- FDF will supply clean reconditioned and inspected respirators, as required, at the jobsite. Respirator issuance will be by FDF at the access control point. Contractor personnel will be required to check out the respirator individually by presenting their badge and having the issuer record information in the log;
- The Contractor shall complete a daily FDF respirator request form to obtain respirators for the next day's use. Requirements for weekends must be included in the request made on Thursday; and
- All respirators are required to be tracked on-site. FDF supplied tags bearing a unique number shall be placed on every respirator to be used on this site.

If it is determined by FDF that airline respirators are required to perform work in airborne areas due to the actual or anticipated radiological/chemical hazards, the following additions shall be incorporated into the Contractor's respirator program as appropriate:

The Contractor shall supply all necessary breathing air to support the work. This shall include all FDF support personnel related to the work (e.g., maintenance, operations, transportation and supervision).

Breathing air shall meet the Compressed Gas Association (CGA), ANSI/CGA G-7.1-1989, Grade D, Type I specifications. If breathing air is supplied to the Contractor from an outside source, certification by the outside source of compliance with the above specifications shall be provided to the FDF Respiratory Protection Program Administrator prior to use at FEMP. Specific testing for Quality Assurance shall be performed by FDF IH or FDF Respiratory Protection prior to use at FEMP.

All breathing air shall be provided by one of two methods:

1. Cascade systems provided by an outside source; and
2. An air compressor system specifically designed for providing breathing air to meet the above specifications. This air compressor system shall be 100 percent electrically operated. In addition, this system shall have a CO monitor at the outlet capable of reading < 10 ppm (parts per million) CO.

The Contractor shall supply adapters for the air purifying respirators listed above and all other required appurtenances including hoses.

All breathing air systems used by the Contractor at FEMP shall be inspected and approved by FDF prior to use.

Since Th-230 is the isotope of concern and the associated extended survey time necessary to assess cleanliness, the Contractor shall plan on a clean respirator being worn each time personnel enter an area controlled for Th-230.

J.3.3.2.1.5.1 Chemical Contaminants

Respiratory protection is required whenever the likelihood of airborne concentrations of chemical hazards (1) exceed one-half the OSHA PEL or ACGIH TLV, whichever is most restrictive; (2) exceed one-half of any applicable short-term exposure limit; (3) as required by specific OSHA standards (e.g., asbestos, lead); (4) or as required by the MSDSs for materials used.

For chemical concerns, the protection factor of a full face air purifying respirator and PAPRs is considered to be 100; that of airline respirators is considered to be 1,000; and that of Self-Contained Breathing Apparatus (SCBA) to be 10,000.

J.3.3.2.1.5.2 Radiological Contaminants

If the fraction of the DAC (Section J.3.4.3.3) of any contaminant measured in the air at any job site, multiplied by the number of hours per week a single worker will be in that area, is greater than four DAC hours, respiratory protection shall be required based upon the protection factor of the respirator needed to bring the airborne concentration inside the face piece down to a potentially MPPo2Pfour DAC-hours per week. To determine which type2 respirator is needed for the job, the protection factor of a half-face respirator is considered to be one, the protection factor of a fully OMface air purifying respirator is considered to be 50; that2 PAPRs and airline respirators is considered to be 1,000; and that of SCBAs to be 10,000.

J.3.3.2.1.6 Employee Exposure Monitoring

The Contractor shall conduct personnel and area exposure monitoring for hazardous substances (including Radiological Contaminants, Section J.3.4 and Environmental Air Monitoring and Requirements, Sections C.5.1.2.3 and C.6.2.14.4). Monitoring shall be conducted to comply with 29 CFR Part 1910.120 (h).

The Contractor shall ensure that exposure monitoring is performed to ensure compliance with the employee exposure assessment requirements of OSHA. The Contractor shall bear the cost of sampling and analysis. FDF shall provide sampling and analysis for radiological contaminants. Sampling and analysis shall be performed using National Institute of Occupational Safety and Health (NIOSH) or OSHA analytical methods. All air monitoring analysis provided by the Contractor shall be performed by an American Industrial Hygiene Association (AIHA)-approved laboratory which has been rated proficient in the last Proficiency Analytical Testing Program.

Contractor employees may be required to wear personal sampling equipment to monitor their exposure to airborne contaminants as indicated in the PSHSRM.

The Contractor shall submit the results of any personal air monitoring (required by OSHA) performed by the Contractor or a subcontractor, as provided to FDF in a format (worker name, social security number, date of sample, activity sampled, contaminant sampled and sample result) so the information may be forwarded to FDF Medical Services for their use in medical monitoring of the Contractor's workers. The Contractor shall provide hard copy report of all monitoring results to FDF on a weekly basis, including sample data, location, activity, containment, and sample result. Workers shall be informed of the exposure monitoring results.

When air monitoring is conducted in airborne radiological areas:

- The Contractor shall ensure that the laboratory that receives samples collected in airborne radiological areas maintains a NRC or Agreement State License to accept low-level radioactive samples for analysis;

- The Contractor shall provide documentation of the laboratory's original NRC or Agreement State License before collecting of any samples;
- The license shall authorize the possession of the radionuclides listed below in health protection samples, as laboratory standards and calibration sources, and for use in research and development activities. The laboratory's nuclear materials license shall allow, at a minimum, for the possession of the following amounts of radionuclides:

<u>Radionuclides</u>	<u>Microcuries</u>
U-238 and progeny	25 each
U-235 and progeny	25 each

J.3.3.2.1.7 Heat and Cold Stress Program

J.3.3.2.1.7.1 Heat Stress

The Contractor's heat and cold stress program shall meet or exceed provisions of the ACGIH TLV booklet. The Contractor shall submit a detailed program including monitoring procedures and methods of control. If the Contractor chooses to use FDF's Heat Stress Program, the Contractor shall submit a statement that FDF's program will be complied with.

The Contractor shall conduct physiological monitoring. When physiological monitoring is conducted a dedicated person is required to track exposure.

FDF will provide the Contractor's personnel with training in physiological monitoring. The Contractor shall notify the FDF Contracts Manager at least five working days in advance of training for scheduling with FDF Medical. Training will be performed in the work area and last about two hours.

The Contractor may use the following methods in conjunction with the required methods:

- The Contractor may conduct physically demanding work during off-shifts when protective clothing is required during June, July, and August;
- PPE (ice vest). Contractor must provide freezer and vests; and
- Develop cool down and/or heat stress rooms. These are areas inside of the work area that are environmentally-controlled. The Contractor shall be responsible for room construction including air conditioning units. Requirements for entry to cool room and heat stress control rooms are given in Section J.3.4, Silo 3 Material Radiological Safety Requirements.

J.3.3.2.1.7.2 Cold Stress

The Contractor may use the tables found in the latest edition of the ACGIH TLV booklet, *Working in Cold Temperatures*, for cold stress compliance or submit a program for compliance review.

The Contractor shall have a log in/log out system during periods when work/rest schedules are used.

J.3.3.2.1.8 Confined Space Program

The Contractor shall ensure that its employees and all subcontractor employees are informed of the presence of permit-required confined spaces in the project area.

Any time Contractor or subcontractor personnel are required to enter permit-required confined spaces at the FEMP, the Contractor shall observe the requirements of FDF's Permit Required Confined Space Program, which complies with the requirements of OSHA 29 CFR Part 1910.146. Prior to any entry into a confined space at the FEMP site, the Contractor shall adhere to the following requirements:

- All confined spaces at the FEMP are classified as permit-required confined spaces until evaluated by FDF;
- Prior to making an entry or performing any work in a confined space, the confined space shall be evaluated by FDF;
- When no hazards are present in the confined space, a Confined Space Evaluation Form will be completed by FDF stating that the space is a nonpermit-confined space for the work activity and work may progress with minimal requirements;
- If evaluation of the confined space indicates a hazard(s) is present, the space will be classified as a permit-required confined space and a Confined Space Entry Permit will be issued by FDF;
- Prior to any entry into a permit-required confined space, efforts shall be made to remove the identified hazard(s). If the hazard(s) cannot be removed, then certain steps/criteria specified in 29 CFR Part 1910.146 are required (i.e., continuous/periodic monitoring of the atmosphere, attendant/standby personnel, entry supervisor, fall protection/retrieval equipment, confined space rescue plan, confined space training);
- The FDF ERT is qualified to conduct confined space rescues and will provide these services for work performed on the FEMP site; and

- Contractor personnel required to enter into permit-required confined spaces, to act as standby/attendant personnel, or to act as entry supervisors shall attend Confined Space Training offered by FDF or alternate confined space training which meets the training requirements of 29 CFR Part 1910.146. Documentation of training by alternate confined space training providers shall be submitted to FDF for compliance review.

J.3.3.2.1.9 Ladders

The Contractor shall incorporate a ladder inspection program into its H&S Program. Ladders and ladder inspections, shall be in accordance with 29 CFR Part 1910 Subpart D, 29 CFR Part 1926 and Attachment J.4.51. Ladders shall be inspected at least quarterly. Ladders shall have a posting stating who inspected them, date of inspection, and when inspection is next due.

J.3.3.2.1.10 Fire Protection Program

The Contractor shall incorporate into its H&S Program a fire protection program in compliance with OSHA and FDF requirements. FDF and OSHA requirements are as follows:

- All flame cutting, welding, open flames, grinding, brazing and other forms of hot work shall require an Open Flame and Welding Permit. The permit shall be updated for each shift;
- A continuous fire watch shall be required for a period of at least 30 minutes after completion of any cutting, welding or burning operation;
- Fire watch personnel shall be trained in use of the fire extinguishers (hands on) and the hazards relevant to the work performed;
- Fire watch personnel shall have a fully-charged portable fire extinguisher of a class rating appropriate for the work and materials, in addition to any extinguisher mounted in the facility;
- Personnel performing flame cutting, welding, burning, and grinding, including helpers, and fire watch personnel shall wear fire retardant clothing. Additionally, leathers or similar protection shall be used any time that hot debris is likely to contact clothing. Fire retardant clothing shall not be considered protection from burning slag or other hot debris;
- Combustible materials shall be kept a safe distance (35 ft minimum) from the work being performed. Materials and equipment that cannot be moved, building surfaces and openings in ducts, tanks or other confined spaces within

20 feet or below the work must be covered with fire resistant welding blankets;

- Flame cutting or welding on small tanks, piping or containers, that cannot be entered, require cleaning, purging and atmospheric testing before starting work;
- Oxygen-fuel gas systems shall be equipped with listed and approved back-flow valves, and pressure-relief devices; and
- All high pressure cylinders shall be secured by a chain.

J.3.3.2.1.11 Lock and Tag (Energy Control)

The Contractor shall comply with FDF Lock and Tag Procedure OP-0004 (Attachment J.4.76), which meets the requirements of 29 CFR Part 1910.147. Salient features of this procedure are:

- All personnel involved in energy control will be trained by FDF;
- Initial lockout/tagout will be performed by FDF;
- Independent verification shall be required for lock and tag;
- The Contractor's appointed employee shall make a safe condition check of FDF's Lockout/Tagout;
- Each Contractor-appointed employee in the energy flow path of the work activity shall install their own personal lock and tag at each lockout/tagout location;
- At the beginning of each shift, each authorized employee shall make a physical walk down to verify that lockout/tagout is still in place; and
- An authorized employee is a qualified employee whose work will require them to enter the path of hazardous entry or materials.

J.3.3.2.1.12 Scaffold Tagging and Inspection Program

The Contractor shall incorporate into its H&S program a scaffold program that meets the requirements of 29 CFR Part 1910 Subpart D and 29 CFR Part 1926 Subpart L. The Contractor's program shall also incorporate the following requirements:

- Competent person shall approve initial use and inspect scaffolding daily before

use and following any occurrence that could affect structural integrity. Inspections shall be documented on FDF form FS-F-5077 Scaffold Inspection Checklist. This form will be made available upon request. Documentation shall be maintained on-site and shall be made available to FDF upon request;

- Manufacturer's instructions for safe erection and use must be available for employee reference;
- Scaffolds over 50 feet high must be preapproved by a registered P.E.; and
- The Contractor shall have a written scaffold tagging program requiring the competent person to inspect and tag scaffolding daily prior to use. Three Scaffold Tags shall be used addressing the following scaffold configurations:
 - Incomplete - 100 percent tie-off required;
 - Complete Scaffold - follow standard use procedures; and
 - Warning Do Not Use.
- Ladders shall be inspected and tagged on a daily basis as required by ACR-004 listed in Section J.3.3.2.1.9; and
- Fall protection shall be implemented on unprotected scaffolding and ladders at working heights of 6 feet or more.

J.3.3.2.1.13 Occupational Noise Exposure

The Contractor shall adhere to the current ACGIH TLVs, which establish an eight-hour TLV-TWA of 85 decibels A-weighted (dBA), and a 3 dB doubling rate.

The Contractor shall institute feasible engineering or administrative controls when the noise exposure or noise dose of personnel is equal to or greater than an eight-hour threshold limit value - time weighted average (TLV-TWA) of 85 dBA. Engineering or administrative controls shall be designed to reduce exposures to the TLVs for noise, as specified by in the most recent edition of the ACGIH.

The Contractor shall provide hearing protection and enforce its use when the noise exposure or noise dose of Contractor personnel is equal to or greater than 85 dBA for any duration of time. The field attenuation afforded by the hearing protection shall be determined by applying OSHA's 50 percent safety factor to the Noise Reduction Rating (NRR), or an equivalent derating method approved by FDF.

The Contractor shall be responsible for obtaining employee noise exposure data, including noise monitoring, to ensure worker safety. The Contractor shall bear the cost of noise monitoring activities. The Contractor shall ensure the results of any noise monitoring,

performed by the Contractor or a lower-tier subcontractor, are provided to FDF.

The Contractor shall submit a Hearing Conservation Program Plan, as required by 29 CFR Part 1910. 95.

J.3.3.2.1.14 Substance Abuse Program

J.3.3.2.1.14.1 Testing

As a condition for work under this contract, Contractor employees shall submit to drug and/or alcohol testing conducted by FDF. Substance abuse testing cannot be rescheduled once an individual has been notified.

Initial screening negative test results are reported to FDF within 48 hours following testing. Resolution of false positive tests, confirmation of positive tests, including evaluation by FDF's Medical Review Officer (MRO), requires up to 96 hours following testing. Holidays and weekends are not included in these durations.

Contractor employees whose badges have been terminated for less than 30 calendar days do not require retesting for access. All other Contractor employees shall be tested prior to access.

Contractor employees cannot perform work under the contract before receipt of negative drug and/or alcohol test results. Training, required medical, and in vivo examinations can be performed pending test results. In the event that the employee is denied access to the site, the Contractor shall bear the cost of employee's time for training, etc. Sampling and laboratory costs of drug and alcohol testing shall be borne by FDF. Costs for employee time related to drug and/or alcohol testing including waiting periods for results and removal from safety sensitive work shall be borne by the Contractor (except FAT&LC personnel).

Refer to the PLA, Sections 13-11 and 14-3 for related provisions (Attachment J.4.8).

All work on this contract has been determined to be "testing designated." The Contractor employees shall be subject to random testing.

Requirements for drug testing do not apply to visitors who are not performing work in safety sensitive functions. A visitor, for purposes of this program, is anyone requiring access to the FEMP for a period of 14 calendar days or less who is not performing safety-sensitive functions.

A sample Substance Abuse Program (Figure J.3.3-3) has been provided for reference.

J.3.3.2.1.14.2 Program Enforcement

Any employee testing positive for the use of illegal drugs, illegal use of prescription drugs, or alcohol in excess of FDF limits. The FDF MRO, shall inactivate access to the FEMP site.

Minimum sanctions to be taken by the Contractor against employees who test positive for the use of illegal drugs or alcohol in excess of FDF limits shall include:

- Denial of site access, for persons seeking initial access, for one year. After one year they would be required to pass access drug and/or alcohol testing and be approved by the FDF MRO and provide documentation of completion of evaluation by a substance abuse professional;
- For first time positive random, suspicion, or occurrence test, denial of site access pending Employee Assistance Program (EAP) recommendation, negative substance abuse testing and approval by the FDF MRO;
- Employees reinstated under this provision shall be subject to unannounced substance abuse testing by recommendation of the MRO for a period of one to five years; and
- For a second positive substance abuse test, site access shall be denied permanently.

For reasonable suspicion or occurrence testing, in the event that a laboratory confirmed negative is not received within 48 hours from the time that tests are taken, the Contractor employee will not be allowed to perform safety sensitive duties including, but not limited to:

- Operation of motor vehicles and hazardous moving equipment of machinery including cranes and fork-lifts;
- Work at unprotected heights including ladders and scaffolds; and
- The employee cannot perform safety sensitive work until notified by FDF of a negative test result. A positive test result may result in denial of site access as described above.

J.3.3.2.1.15 Fall Protection Plan

In compliance with 29 CFR Part 1926 Subpart M, the Contractor shall provide:

- Fall protection required for a fall six foot or greater 29 CFR Part 1926.501;

- Fall protection plans described in 29 CFR Part 1926.502(k);
- Training Program as described in 29 CFR Part 1926.503; and
- Fall protection shall include a full-body harness. Belts may be used for positioning with fall protection provided by a separate full-body harness with independent tie-off.

J.3.3.3 Site Access, Training, and Medical Scheduling

J.3.3.3.1 General Training Requirements

All personnel working at the FEMP shall receive General Employee Training (GET). The Contractor shall complete a Pre-planning Request for Access Form (Figure J.3.3-5) for requesting access for new employees.

To comply with 10 CFR Part 835, DOE Radiological Controls Manual and 29 CFR Part 1910.120, all personnel working or entering into a thorium contamination area on this project shall have the following FDF supplied training or equivalent listed in this section:

- GET;
- Site Worker Training;
- Radiological Worker II Training;
- Respirator Training and Fit Test (Contractor supplied except for FAT&LC personnel); and
- Construction Rules and Regulations.

The Contractor Training and Medical Schedule and Locations (Figure J.3.3-4) gives durations, provider, schedule and location information for training courses and physicals. Where "Schedule" appears under "Time Provided" it means that training can be scheduled with the FDF on a first come first served basis.

The Contractor shall be responsible for all cost [wages, fringes, etc.] of their personnel being trained (reference PLA Article III, Section 3-3 (Attachment J.4-8), which provides that the GCBCTC will bear the cost of Site Worker Training and RW I or RW II training; Refresher and Radiological Retraining shall be at the Contractor's cost].

The cost of trainers provided by FDF will be borne by FDF.

Equivalent Site Worker and Radiological Worker Training - Those individuals with

documented proof of previous training (i.e., Hazwoper Training), equivalent to FDF Site Worker Training, may with documented proof, receive exemption from Site Worker Training. Exemption may also be granted for Radiological Worker Training from other DOE Sites or from the GCBCTC by submitting documentation and successfully completing the FDF Radiological Worker Test and Practical (approximately four hours).

Personnel granted exemption to FDF Site Worker Training shall complete the following: Construction Rules and Regulations (construction only), GET, applicable Radiological Worker Training (i.e., RW I and RW II Training), and Supervised Field Experience on the FDF job site.

Certifications of training by a Contractor trainer must be submitted to FDF for each employee at least four working days before site access is needed.

The Contractor's superintendent shall submit an OSHA Supervised Field Experience form, signifying completion of Hazardous Waste Site Supervised Field Experience 29 CFR Part 1910.120, (24 hours of field experience) for each employee when GET, Site Worker Training, and RW II Training are required, to the FDF Contract Administrator.

All Contractor and Subcontractor Field Supervisors (Project Management, Superintendents, Construction Engineers, Construction Coordinators, Safety Personnel, or similar positions) shall successfully complete a certified OSHA construction safety outreach 30-hour program course. This training shall be required prior to receiving authorization to mobilize (for construction activities only).

The Contractor shall train employees per DOE Order 5480.20A, as appropriate, to recognize and avoid fall hazards and in the use of control and fall arrest systems. Per 29 CFR Part 1910 and 29 CFR Part 1926, as appropriate, training shall be documented and retained in jobsite files.

J.3.3.3.2 Refresher Training

The Contractor shall ensure all employees receive appropriate refresher training prior to training expiration date. Contractor employees working with expired training will be denied access to the job site by FDF. Delay costs and labor costs due to this access denial shall be borne by the Contractor.

Required refresher training is listed in Figure J.3.3-4. The Contractor's shall coordinate scheduling of refresher training with FDF.

GET Refresher Supplemental Courses (see Required Additional Annual Training) - Required documentation from meetings and briefings shall be submitted by the Contractor to the FDF Contract Administrator.

J.3.3.3.3 Computer Based Training (CBT)

Where indicated on Figure J.3.3-4, training or retraining is available on computers using interactive screens. Self study booklets are available to assist in preparation for CBT Training.

J.3.3.3.4 Access Requirements

J.3.3.3.4.1 General Access Requirements

At least five work days prior to Contractor or GCBCTC personnel arriving at the work site, the Contractor's superintendent shall notify FDF that Contractor personnel will require access. The Preplanning Request For Access form (Figure J.3.3-5) is used to make this notification. Names of Contractor personnel are not required on this form.

This notification allows FDF to reserve training and, as required, medical times in advance.

Training and medical reservations are made on a first come, first served basis.

Before 9:00 a.m. of the day preceding when personnel will arrive, the Contractor shall submit an Access Request Form (Attachment J.4.23) to FDF, which requires the names of Contractor personnel.

Contractor personnel shall arrive at the location identified by FDF to begin the access process by 6:30 a.m.

Access Badges and TLDs (if required) will be issued upon completion of access requirements as verified by FDF

See Section J.3.3.2.1.14 for substance abuse testing requirements related to access.

Unless otherwise noted in the contract, escorted personnel may not perform physical work.

J.3.3.3.4.2 Requirements for First Time Access

- GET, Site Worker Training and RW II training and physicals, shall be taken and passed prior to being granted unescorted access to the work area. Construction Rules and Regulations also required for the Pre-operational, Decontamination and Dismantlement, and Site Restoration Phases; and
- Other training such as Confined Space and Energy Control (Lockout and Tagout) are not access requirements. They are requirements for performing work tasks as indicated on the matrix.

J.3.3.3.4.3 Requirements for Personnel Who Have Had FEMP Access Previously

Upon receipt of the Access Request Form, FDF will review training and medical records to determine what additional training will be required.

The following guidelines shall be used:

- In vivo testing shall be required for RW II workers after an absence of six months from site or if the employee has worked at another facility since leaving the site;
- Medical testing shall be required for RW II workers after an absence of one year from site;
- Medical history update shall be required each time (approximately one hour); and
- Training shall be in accordance with refresher requirements in Figure J.3.3-4.

J.3.3.3.4.4 Required Additional Annual Training

In addition to GET Refresher, each employee shall complete an additional three hours of supplement annual training. Attendance at one or more of the following, as long as it is for at least three hours, will satisfy this requirement:

- Documented attendance for Prewrite Safety Meeting;
- Documented attendance sheet weekly tool box safety meetings;
- Cumulative and documented time from daily briefings;
- Respirator Training (four hours);
- Lock and Tag Training (eight hours); and
- Confined Space Training (eight hours).

If potential exposures exist to hazardous chemicals, based on the Contractor's design and operation, additional training may be required for substance specific training as identified in 29 CFR.

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Figure J.3.3-1

CONTRACTOR MANPOWER REPORT		
Contractor:		MONTH ENDING:
WORK PACKAGE NUMBER AND DESCRIPTION:		
Contractor NAME	TOTAL WORK HOURS	INJURIES (List number of injuries and give a brief description.)

NOTE: INCLUDE ALL ON-SITE HOURS (CRAFTS, SUPERVISION, TEAM LEADERS, CLERICAL, ETC.)

FIGURE J.3.3-2

[illegible]

Use a separate sheet for subcontractor and attach it to the General Contractor Sheet.

**FIGURE J.3.3-3
MODEL SUBSTANCE ABUSE PROGRAM**

1.0 POLICY

It is the policy of _____ that on contracts at Fernald Environmental Management Project (FEMP) including offsite locations, a DOE owned or controlled site:

- 1.1 The use, possession, sale, distribution, or manufacture of illegal drugs or alcohol at work or while on DOE property is prohibited.
- 1.2 Reporting to work while under the influence of intoxicants (including alcohol), narcotics, hallucinogens, depressants, stimulants, or other such drugs is also prohibited.
- 1.3 Any employee who violates this policy shall be subject to disciplinary action up to and including termination.
- 1.4 Any employee working at a DOE owned or controlled site shall receive notification that as a condition of employment under the contract the employee will abide by this policy.

2.0 EMPLOYEE EDUCATION AND TRAINING

- 2.1 Education and training programs will be presented to all employees which instruct the employee on the health aspect of substance abuse, safety, security and other workplace-related problems caused by substance abuse, provisions of DOE 10 CFR Part 707, and the employer's policy.
- 2.2 Managers and supervisors will receive additional training in the recognition of deteriorating job performance or judgement, or observation of unusual conduct which may be the result of possible illegal drug use, their responsibility to intervene, and the employer's policy.

3.0 EMPLOYEE ASSISTANCE

- 3.1 Employee assistance programs emphasizing preventative services, education, short term counseling, coordination and referral to outside

agencies, and follow up shall be available to all on-site employees involved in the contract.

4.0 NOTIFICATION REQUIREMENTS

- 4.1** Any employee convicted under criminal drug statute for a violation occurring on a DOE owned or controlled site must notify FDF in writing within ten calendar days after such conviction. Failure to notify FDF of such a conviction is grounds for disciplinary action up to and including discharge. Within ten calendar days of receiving such notice FDF will notify DOE of the conviction.
- 4.2** Within 30 calendar days of receiving such a notice, appropriate personnel action must be taken against such an employee up to and including termination, or the employee, consistent with FDF's policy, may be offered the opportunity to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by Federal, State, or local health, law enforcement , or other appropriate agency.
- 4.3** If the employee does not participate in such a rehabilitation program, the Contractor must take appropriate personnel action, up to and including termination, in accordance with FDF's policies.

5.0 TESTING DESIGNATED POSITIONS

- 5.1** Personnel determined by FDF to be in a Testing Designated Positions are subject to random drug testing. Testing Designated Positions are positions directly engaged in production, use, storage, transportation, or disposal of hazardous material sufficient to cause significant harm to the environment or to public health and safety.

6.0 CERTIFICATION

- 6.1** _____ is committed to providing a safe workplace that is free from substance abuse by requiring that all employees be free of substance abuse of alcohol or drugs, while performing work at a DOE owned or operated facilities.

Name and signature of authorized person: (Print)_____

(Title)_____

(Signature) _____

(Date) _____

FIGURE J.3.3-4 Contractor Training and Medical Schedule Locations

TRAINING REQUIREMENT	DURATION HOURS	FREQUENCY	PROVIDED BY	TIME PROVIDED	LOCATIO N PROVIDED
CONST. RULES/REG.	2	One time	FDF	Mon. - Thur. @ 8:00 a.m.	FEMP
GENERAL EMPLOYEE TRAINING (GET) or GET/CBT COMPUTER BASED TRAINING	4	One time	FDF	GET - Mon. @ 11:30 a.m. GET/CBT - schedule Mon. - Fri.	FEMP
GET REFRESHER WITH SUPPLEMENT (CBT) (SEE REQUIRED ADDITIONAL ANNUAL TRAINING TABLE)	5	Annually	FDF	Schedule	
SITE WORKER TRAINING	12	One time	FDF	Tue. - Wed. starting @ 7:00 a.m. *every other week*	FEMP
RADIOLOGICAL WORKER I (RWI) or RWI/CBT	8	One time	FDF	Schedule Thur. Mon. through Fri. @ 7:00 a.m.	Alpha Building
RADIOLOGICAL WORKER I RETRAINING CBT	4	Every two years	FDF	Schedule Mon. - Fri.	FEMP
RADIOLOGICAL WORKER I RETRAINING PRACTICAL	1	Every two years	FDF	Schedule time Wed. only	Beta Building

FIGURE J.3.3-4 Contractor Training and Medical Schedule Locations (Continued)

TRAINING REQUIREMENT	DURATION HOURS	FREQUENCY	PROVIDED BY	TIME PROVIDED	LOCATION PROVIDED
CONST. RULES/REG.	2	One time	FDF	Mon. - Thur. @ 8:00 a.m.	FEMP
TO EXPEDITE ACCESS, INDIVIDUALS MUST BRING DOCUMENTED PROOF OF PREVIOUS TRAINING, MOST RECENT PHYSICAL EXAMINATIONS, MEETING OSHA REQUIREMENTS, PICTURE IDENTIFICATION, AND DOSIMETRY HISTORY. RADIOLOGICAL WORKER II (RWII) or RWII\CBT	20	One time	FDF	Schedule Thur. - Mon. starting @ 7:00 a.m.	Alpha Building
RADIOLOGICAL WORKER II RETRAINING CBT	6	Every two years	FDF	Schedule Mon. - Fri.	FEMP
RADIOLOGICAL WORKER II RETRAINING PRACTICAL	2	Every two years	FDF	Schedule time Wed. only	Beta Building
RESPIRATOR CBT NOTE: FOR RAD WORKER II	4	Annually	FDF for FAT&LC personnel Contractor for other personnel	Schedule Mon. - Fri.	FEMP
RESPIRATOR FIT TESTING	1	Annually for nonasbestos workers, every six months for asbestos, lead, and cadmium workers	FDF for FAT&LC personnel Contractor for other personnel	Schedule	FEMP

FIGURE J.3.3-4 Contractor Training and Medical Schedule Locations (Continued)

TRAINING REQUIREMENT	DURATION HOURS	FREQUENCY	PROVIDED BY	TIME PROVIDED	LOCATION PROVIDED
CONST. RULES/REG.	2	One time	FDF	Mon. - Thur. @ 8:00 a.m.	FEMP
PHYSICALS	3	Annually for Radiological Worker II	FDF for FAT&LC personnel Contractor for other personnel	Schedule	FEMP
IN VIVO MONITORING (NOTE: Only for Radiological Worker II)	1	Required prior to start work, annually, and exit	FDF	Schedule	FEMP
IN VITRO NOTE: Only for Radiological Worker II	1	Submit sample to FDF Medical Every 60 calendar days	FDF	24 hrs. a day	FDF Medical
OSHA CONSTRUCTION OUTREACH	30	Acquire 30 calendar days after initial start day	FDF	Schedule	Alpha Building
29 CFR PART 1910.120 SUPERVISED FIELD EXPERIENCE ONE DAY (FOR RWI)	8	One time	Contractor	Start after successful completion of initial training	conduct on the job site at the FEMP
29 CFR PART 1910.120 SUPERVISED FIELD EXPERIENCE THREE DAY (FOR RWII)	24	One time	Contractor	Start after successful completion of initial training	conduct on the job site at the FEMP
ENERGY CONTROL (LOCK AND TAG)	8	Annually	FDF		
CONFINED SPACE	8	One time	Contractor		
TECHNICALLY RESPONSIBLE INDIVIDUAL	8	Biannual	FDF	Schedule	FEMP
QUALIFIED SAFETY EVALUATOR	Self Paced	Biannual	FDF	Schedule	FEMP

FIGURE J.3.3-4 Contractor Training and Medical Schedule Locations (Continued)

TRAINING REQUIREMENT	DURATION HOURS	FREQUENCY	PROVIDED BY	TIME PROVIDED	LOCATIO N PROVIDED
CONST. RULES/REG.	2	One time	FDF	Mon. - Thur. @ 8:00 a.m.	FEMP
DISPOSAL FACILITY INITIAL	8	One time	FDF	Schedule	FEMP
DISPOSAL FACILITY REFRESHER	2	Annually	FDF	Schedule	FEMP

FIGURE J.3.3-5 PRE-PLANNING REQUEST FOR ACCESS

The purpose of this form is to provide early scheduling and expedite access to the FEMP for individuals whose identity is unknown and meet any of the following criteria: (1) Requires access to the FEMP 14 or more consecutive days; (2) is working under a contract that exceeds \$25,000; (3) requires any of the medical or training requirements listed below.

For more information, please refer to Site Procedure SE-0001.

ORIGINATOR: (Printed) _____ (FDF CONTACT)			
(Signature) _____		Date: _____	
BADGE NO.:	PHONE NO.:	DIVISION:	DEPARTMENT:
EMPLOYER INFORMATION:	COMPANY NAME:		COMPANY TELEPHONE NO.:
			()
	COMPANY ADDRESS:		
	STREET:	CITY:	STATE: ZIP CODE:
	OCCUPATION:	COMPANY CONTACT:	
DATE(S) ACCESS REQUIRED:	START DATE: / / END DATE: / /		ON-SITE SUPERVISOR:
INDICATE NUMBER OF PERSONNEL REQUIRING THE FOLLOWING MEDICAL REQUIREMENTS			
<div style="display: flex; justify-content: space-around;"> DRUG SCREEN _____ PHYSICAL EXAM _____ </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> BASELINE PHYSICAL INCLUDING: _____ LEAD WORKER _____ ASBESTOS WORKER _____ RESPIRATOR WEARER _____ </div>			
INDICATE NUMBER OF PERSONNEL REQUIRING THE FOLLOWING TRAINING REQUIREMENTS			
_____ CONSTRUCTION RULES & REGULATIONS _____ GENERAL EMPLOYEE TRAINING (GET) _____ SITE WORKER (SWT) _____ RADIOLOGICAL WORKER I (RAD I) _____ RADIOLOGICAL WORKER II (RAD II*) _____ * BASELINE IN-VIVO _____ THORIUM WORKER _____ RESPIRATOR _____ ASBESTOS O & M _____ ASBESTOS ABATEMENT WORKER		_____ ASBESTOS ABATEMENT PRACTICES (Contractor/SUPERVISOR) _____ CONFINED SPACE _____ K-65 WORKER _____ HAZARDOUS ENERGY & MATERIAL CONTROL (LOCK & TAG) _____ LEAD WORKER _____ OSHA OUTREACH (____ 30 HR/____ 10 HR) _____ 29CFR Part 1910.120 SUPERVISOR TRAINING _____ OTHER _____	

HELPFUL GUIDANCE INFORMATION:

- PRINT LEGIBLY USING BLACK INK
- RECOMMEND SUBMITTAL OF FORM TO ACCESS ADMINISTRATION CENTER 10 DAYS IN ADVANCE IF POSSIBLE, BUT NO LATER THAN 5 DAYS PRIOR TO
- FOR QUESTIONS, CONTACT ACCESS ADMINISTRATION CENTER AT 648-____.
- INDIVIDUAL ACCESS REQUEST FORMS MUST BE FORWARDED TO ACCESS ADMINISTRATION CENTER AS SOON AS INDIVIDUAL INFORMATION IS RECEIVED
- TO EXPEDITE ACCESS, INDIVIDUALS MUST BRING DOCUMENTED PROOF OF PREVIOUS TRAINING, MOST RECENT PHYSICAL EXAMINATIONS. MEETING IDENTIFICATION, AND DOSIMETRY HISTORY

FIGURE J.3.3-6
HEALTH AND SAFETY REQUIREMENTS MATRIX
PROJECT: Silo 3 Material Stabilization

RFP Number 98P132339

The requirements listed in Section 1.0 of this matrix apply to all activities addressed in this matrix

ACTIVITY (TASKS)	HAZARD IDENTIFICATION	FREQUENCY & TYPE OF AIR AND PERSONNEL MONITORING REQUIRED	PERSONAL PROTECTIVE EQUIPMENT	TRAINING REQUIREMENTS	MEDICAL MONITORING & SURVEILLANCE REQUIREMENTS	ADMINISTRATIVE & ENGINEERING CONTROL MEASURES	PERMIT(S)	DECONTAMINATION & DISPOSAL PROCEDURES
1.0 General Project minimum requirements NOTE: These general requirements apply to all sections of this matrix	Work in the Silo 3 area Work at a hazardous waste site Work in a construction area	Thermoluminescent Dosimeter (TLD) FDF Radiological Control Technician (RCT) Periodic Monitoring as required.	Latex gloves Work gloves Steel toed, leather safety shoes (ANSI Z41) Hard hat Safety glasses w/rigid side shields (ANSI Z87.1)	General Site Worker <ul style="list-style-type: none"> • Site GET Training • Site Worker Training • Rad Worker I • 24 hr. supervised field experience • Construction Rules & Regulations • Orientation on the PSHSP (including matrix) • Orientation on Project Specific MSDSs. • Respirator Training Additional for supervisors <ul style="list-style-type: none"> • OSHA Out Reach Visitors <ul style="list-style-type: none"> • Rad Worker I training or have an escort with all required training • Briefing on PSHSP and matrix • Briefing by site supervisor on current activities and hazards 	Medical surveillance exam: baseline, annual, and termination Report all injuries to FDF Medical Department Initial, every 60 days, and termination urine sample Initial, annual, and termination in-vivo exam	Attend a pre-work kickoff/safety meeting Daily specific task review of Safe Work Plan FDF to inspect all equipment prior to entering site Weekly safety meeting	Work Permit Radiological Work Permit (RWP)	Personnel and material radiological contamination monitoring required to exit controlled area
	Work in Contamination Areas (Uranium)	General Area (GA) air sampling by FDF (Uranium) Breathing Zone air sampling for at least 25% of the workers by FDF	Full cloth anti-Cs for hands-on work (replaces anti-C requirement above) Full-face respirator with magenta (HEPA) cartridges as required by RWP PAPR as required by RWP	Respirator Fit-Test PAPR Training if PAPRs are worn	Medical approval for respirator use	Dust suppression techniques (including use of a surfactant) to be implemented Visitors who are not Rad Worker II trained are to obtain authorization from the Radiological Control Program Team Coach	RWP	Disposal of contaminated material (anti-c, waste, etc) in supplied bags or containers

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FIGURE J.3.3-6
HEALTH AND SAFETY REQUIREMENTS MATRIX
PROJECT: Silo 3 Material Stabilization

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1.0 General Project minimum requirements NOTE: These general requirements apply to all sections of this matrix	Work in Contamination Areas (Thorium)	(Thorium)Breathing Zone air sampling for 100% of the workers by FDF	Cloth anti-Cs with disposable outer anti-Cs for Thorium Contamination Areas Air supplied hood as required by RWP	Same as Uranium Contamination Area plus Air supplied hood Training if Air supplied hoods are worn	Same as Uranium Contamination Area plus Baseline and incident fecal sampling as required for thorium Contamination Areas	Same as Uranium Contamination Area	RWP	
	Heat stress	Physiological monitoring Ambient temperature monitoring	Cool vests (optional)	Safety meetings concerning signs and symptoms of heat stress	FDF Medical approval for working in hot environments	Work/rest regimen based on physiological monitoring shall be used Cool room, including water Develop heat stress program to address heat stress concerns		
	Cold stress	Ambient temperature monitoring	Clothing suitable for cold weather	Safety briefing on cold stress If temperature $\leq 32^{\circ}\text{F}$, special briefing on use of PAPRs in cold weather (if PAPRs are worn)		When ambient temperature is below 20°F : <ul style="list-style-type: none"> • define an approach to address cold stress • identify a warmup area(s) to be used • work/rest regimen may be used Use of PAPRs in cold weather is restricted as follows: <ul style="list-style-type: none"> • 0 to 15°F time is limited to 15 min. continuous use • $<0^{\circ}\text{F}$ use of PAPRs is prohibited except for emergency use 		

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1.0 General Project minimum requirements NOTE: These general requirements apply to all sections of this matrix	Elevated work (Work on Silo 3 Dome)		Body harness and lanyard	Training in proper use of fall protection equipment		100% fall protection required for unguarded work locations ≥ 6 feet Control (barricade) the area(s) below the elevated work Secure lanyard to structure capable of holding 5000 lbs Personal fall arrest system to be rigged to limit free fall to six feet and to prevent contact with lower levels.	Silo Dome Access Permit	
	Ladders and scaffolding		See "Elevated work" above	Competent person for inspection of ladders and scaffolding		Ladders to be secured in place prior to use Ladders to have current inspection sticker Scaffolding to have current inspection tag		
1.0 General Project minimum requirements NOTE: These general requirements apply to all sections of this matrix	Use of a man lift (JLG, Grove, Scissors, etc.)		See "Elevated Work" above	Trained operator		All lift units are to be inspected and operated as defined within the manufacturer's operation/ safety manual 100% tie off when in equipment except for Scissors lifts that have top rail, mid rail, and toe boards. Control (barricade) swing radius of manlift Maintain ≥ 10 feet from power lines		

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	Hoisting/rigging			Competent person for Hoisting and Rigging Inspection.		Comply with DOE Hoisting and Rigging Manual requirements. Lift Plan Verification of Level 1, 2, or 3 Rigger		
	Weather limitations for outdoor activities					Outdoor activities will be suspended if the following conditions occur: <ul style="list-style-type: none"> • lightning • heavy persistent rain • any wind velocity of 25 mph or greater will stop elevated work and crane work • any weather condition whose impact is judged to be detrimental by the FDF HSO 		
1.0 General Project minimum requirements NOTE: These general requirements apply to all sections of this matrix	Cuts, abrasions, and puncture wounds		Leather palm gloves		Report all injuries to FDF Medical			
	Noise (ex. bandsaw, jackhammer)	Conduct monitoring as required	Hearing protection required if noise levels ≥ 85 dBA (i.e. when using power tools or heavy equipment)	Personnel exposed to an 8 hr TWA of 85 dBA or greater shall be in a subcontractor Hearing Conservation Program (HCP)	Audiometric evaluation required for employees in subcontractor HCP	Areas where noise exceeds 85 dBA are to be posted "Hearing Protection Required"		

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	Fire (open flame during welding or cutting) See also specific activities for additional requirements when cutting lead painted or contaminated materials	<i>FDF</i> monitoring of work area for flammable/ explosive gases.	Flame retardant clothing or anti-c's Leathers (when debris could contact clothing) UV eye protection	Trained firewatch		Remove combustible materials prior to flame or torch cutting. Fire watch Fire extinguisher available near work site.	Open Flame and Welding Permit	
	Confined Space	<i>FDF</i> performs initial monitoring <i>FDF</i> performs continuous monitoring when required	PPE required for entry into permit required confined spaces	Confined Space Training required for entry into permit required confined spaces.	<i>FDF</i> medical approval for permit required confined space entry	Work from outside confined space when possible. Controls required for entry into permit required confined spaces	Confined Space Evaluation/ Permit	
1.0 General Project minimum requirements NOTE: These general requirements apply to all sections of this matrix	Operation of mobile equipment (i.e. bobcat, forklift, backhoe)	See requirements for specific hazards	See requirements for specific hazards	Qualified equipment operator		Audible backup alarm Fire extinguisher Seat belts when factory installed		
	Hand-arm vibration from power hand tools; e.g., jackhammer, grinder, chain saw		Anti-vibration gloves shall be used during extended use of vibrating hand tools	Briefing for involved workers on vibration hazards.		Personnel shall dress warmly when using power hand tools in cold weather Personnel shall take 10 minute break from vibration for each hour a vibrating hand tool is operated.		
2.0 Mobilization	Connecting to site utilities and systems			Site Energy Control Training (OP-0004) for involved workers and supervisors		Verify isolation of utilities and systems. Energy isolation plan	Lockout /tagout	

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	Ground or wall Penetrations			Site Energy Control Training (OP-0004) for involved workers and supervisors if location of utilities can not be determined		Review as built drawings Flag utilities within 10 feet of penetration Lock and Tag utilities if location of utilities can not be determined Hand dig within 3 feet of underground utilities	Penetration Lockout /tagout	
3.0 Last day of job or employment for employee					Exit physical Termination urinalysis Exit In-Vivo			

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